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AUTHOR Cvetkovich, George
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ABSTRACT

It is popularly held that the low rate of birth control use among sexually-active American teenagers is primarily due to their immaturity. Many teenagers are commencing their sexual careers prior to acquisition of the social and cognitive abilities demanded by responsible contraceptive use. A general decision-making framework can be used to create a systematic developmental theory of fertility control. Recent evidence concerning the importance of three psychosocial developments to effective contraceptive use has concentrated on: (1) the acceptance of one's sexuality and fecundity: (2) the acquisition of interactional communication skills; and (3) the development of logical and "dialectic" cognitive abilities which permit the individual to systematically anticipate behavioral consequences and to apply a balance of logic and emotion to personal situations. Delineating the effects of situational characteristics, such as emotional commitment to partner, revealed a relationship between psychosocial development and contraceptive use as well as differences in the use patterns of male- versus female-dependent methods. (Author)

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Towards a Theory of Psychosocial Development and Fertility Control

George Cvetkovich

Western Washington University

Bellingham, Washington 98225

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Towards a Theory of Psychosocial Development and Fertility Control

The main purpose of this paper is to suggest that one important way in which the creation of a theory of psychosocial development and fertility control can be facilitated is by the adoption of a decision-making orientation. Much psychological population research has studied decision-making (Alder, 1979). Few of these investigations have exclusively studied teenagers.

The term "decision-making" as used here is broadly defined. I am not advocating the adoption of a single theoretical perspective. Rather, decision-making simply refers to the making of a choice either explicitly on the basis of conscious analytic processes or implicitly on the basis of feelings and other "intuitions."* Developmental research should be conducted in such a way as to allow discussion of results highlighting the making of decisions. Rather than being satisfied with specifying a relationship between a developmental variable and fertility control, decision-making research attempts to specify the nature of conditions intervening between developmental stages and behavior. Also, most importantly, decision-making research calls for the precise measurement of contraceptive

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*Riegel (1973) argues that the ability to combine these two processes into a single decision is itself a developmental event occurring during the mid-teens--an intriguing possibility worthy of future research attention.

and other fertility-related behavior. Behavior should be measured relative to kind, time, duration, and context.

The remainder of this paper illustrates a decision-making analysis of data on most recent use of contraceptives with first sexual partner from our study of teenagers in Northwest Washington State. The study was originally designed to investigate the relationship between the development of interpersonal communication skills and fertility control. Like most investigators, we began analysis using an overall measure of contraceptive use.

One typical method is to create a scale combining all contraceptives based on their actual or theoretical effectiveness (Herold, Note 3; Mindick & Oskamp, 1979). A problem with such an overall-protection scale is that it obscures the possible unique patterns of variables related to specific kinds of contraceptives. In some respects all methods of contraception do make the same demands (Byrne, 1980 in press; Schinke, Gilchrist & Small, 1979). The individual must expect to have sex, possess knowledge about contraception and its prevention, acquire the necessary birth control materials (unless withdrawal or rhythm is used), and apply the contraceptive method to her or his body. Beyond this, the demands and psychosocial costs of the "female-dependent" medical methods--birth control pills, diaphragm, and intrauterine devices--are quite different from those of the "male-dependent" condom. To initiate the use of female methods a young woman must publicly proclaim that she is sexually active by going to a birth control clinic or private

physician. For many young women the cost is all the greater since she must subject herself to a physical examination and the trip may be her first solo experience with a health care provided and/or her first visit to a gynecologist. Female methods may involve the additional cost of risking short- and long-term side effects. Because of these relatively high costs female methods should be most used by those young women who perceive that they have the greatest need for contraceptive protection. This is not to say that condom use is not related to expectation of sex and the perceived risk of pregnancy. However, since the psychosocial and other costs of obtaining and using a condom are relatively less for a young woman the male method is used by those with a lower estimation of personal risk of pregnancy.

Similarly, the level of verbal communication skills required by male and female methods is different. Women with patterns of high communication, both specific to contraception and in other areas, have been found to be vigilant users of all methods of contraceptives, including female methods (Cvetkovich & Grote, Note 1). However, the female methods do not require communication for their use. A male may be completely ignorant that his partner is protected by a female method. A woman who desires her partner to use a condom, even if she has purchased it herself, would have to tell her partner to use it if she is to be protected.

The nature of the relationship to her male partner can make an important overriding contribution to both perceived need of

contraception and level of communication with partner. Single high school and college students involved in stable relationships are more contraceptively vigilant than are women involved in casual, short-term relationships (Foreit & Foreit, 1978; Byrne, Fisher, Edmond, & Miller, 1979; Fugita, Wanger & Pion, 1971; Cvetkovich & Grote, Note 1). People in stable relationships tend to have more predictably occurring and more frequent sex. Hence they may perceive a greater need to be contraceptively protected. But a dependable stable relationship not only increases the frequency of sex, it may also contribute to a young woman's acceptance of her sexuality and therefore increase her contraceptive vigilance (Reiss, Banwart & Foreman, 1975; Thompson & Spanier, 1978). A supportive and dependable partner can through both verbal and nonverbal communication reduce guilt about and denial of being sexually active.

Because the nature of relationship to partner can influence both perceived need for contraception and communication its cumulative effect should be strongest on those forms of contraception which are the most costly to young women: the medical female-dependent methods.

In sum, a distinction is made between what increases the likelihood of teenagers' contraceptive use with first sexual partner and what is basically necessary for its use. A personal acceptance of the need to be contraceptively protected increases the likelihood of actual contraceptive use regardless of method. However, a condom is likely to be used even when a young woman has a relatively low assessment of pregnancy risk, provided that she has the verbal

communication skills to discuss contraception with her partner. "High cost" female-dependent methods will be used by young women who have developed a high assessment of their pregnancy risk, provided that they are involved in a relationship which makes the costs of such methods seem worthwhile.

To determine the adequacy of the described conceptualization a discriminate function analysis of pill users, condom users and no-method users was completed (Tables 1-4). Generally the findings are in agreement with the conceptualization of contraceptive demands. Not only are contraceptive users distinguished from non-users on the developmental variables studied, but users of different methods are distinguished from each other. This suggests the importance of investigating contraceptive use relative to the demands, costs, and benefits incurred by each method of protection. Furthermore the findings strongly suggest some of the specific ways in which contraceptive decision making is different for those who are just beginning their sexual career than for more experienced and mature women. Generally teenagers are more willing than older individuals to engage in certain activities which potentially could harm them. Drug use, reckless driving, and shoplifting are examples. One explanation for this age difference is that teenagers lack a realistic appraisal of the actual risks involved in these behaviors. As Elkind (1967) points out, teenagers often act as if they hold a myth of personal immortality.

Many participants in this study gave high estimates of the

probability of a woman becoming pregnant following unprotected intercourse. The lowest group average estimate of 17% given by the condom users is appreciably higher than the actual risk of 4% (Bongaarts, 1976). This suggests that contraceptive risk taking is not due to a direct underestimation of the risks of becoming pregnant. Rather it may be partly the result of a failure to fully understand the meaning of probability estimates. That is, any probability short of 100% may be perceived as being very uncertain.

Also contraceptive risk taking may be due to the manner in which general estimates of risk are applied to one's own personal case. An important contraceptive decision-making heuristic seems to be the certainty and frequency of intercourse. Of course pubescent women are less likely to conceive than are older physically-mature women both because of differences in the frequency of intercourse and in fecundity. However, the belief among teenagers that they are safe from impregnation far outstrips the reality. A 1976 national survey shows that of the sexually active teenage women who did not want to become pregnant, but who failed to use birth control, retrospectively, 64.6% said that they did not think that they could become pregnant (Zelnik & Kantner, 1979). Half of these women thought that they would not conceive because they were too young or they were having sex too infrequently. Yet one-half of all premarital pregnancies to American teenagers occur during the first six months of sexual activity and one-fifth during the first month (Zabin, Kantner & Zelnik, 1979). Failure to adequately apply probability

estimates to personal cases has been observed in a number of health and other important life decision areas as well as with older age groups (e.g., Slovic, Kunreuther & White, 1974; Kahneman & Tversky, 1973). It may well be that such bonded rationality is a widespread characteristic of intuitive decision makers (Tversky & Kahneman, 1974).

The discrimination of pill use from no-method users suggests that in addition to frequency of sex, use of contraceptive methods with high psychosocial costs is also promoted by quality and length of relationship with partner. Based on present data it is not possible to specify exactly what it is about relationship which promotes contraceptive vigilance. Male partners in stable relationships are more likely to care about their partner's well being and to actively encourage contraceptive use. Such males are also likely to promote development of acceptance of sexuality (Cvetkovich & Grote, note 2). Future research and analysis should be directed at exploring more exactly how frequency of sex, relationship to partner and other experiences (e.g., pregnancy scares) operate to produce the conclusion that the benefits of medical contraceptives outweigh the costs. Evidence from older women suggests that the scales of decision-making do not tip once and for all in this direction but fluctuate during the life-span (Luker, 1975; Miller, 1973).

Condoms could be, and are, used by those who do not feel the need to incur the psychosocial costs of obtaining a medical method

of contraception. Results suggest that one reason use is not more frequent is because condoms demand the ability to be an effective communicator. While Pill users are characterized by a high level of role-taking skills relative to non-users, condom users have the highest ability of all three groups, as well as the highest level of general communication with male friends.

Another reason for the failure to use condoms in addition to lack of communication skills is suggested by the results. Investigations of decision-making under stress show that when confronted with the possibility of a highly threatening event for which no totally effective response is available people engage in psychological coping strategies (Janis & Mann, 1977). Rather than seeking out means of actually reducing the chance of the untoward occurrence, the person may engage in a defensive strategy of denial and bolstering (i.e., attending to messages which minimize or belittle the risk). A cigarette smoke may be comforted by the belief that he or she really does not smoke much or that the risks of cancer from smoking are small compared to the risks from automobile emissions.

Discrimination of the condom users from pill users and no-method users fits such a conceptualization of psychological coping very well. Condom users view the possibility of their own premarital pregancy as less negative and more relativistic than do the other two groups. Condom users are more mature in their assessment. If they did become pregnant they suspect that it would not be totally disastrous and that the actual consequences would depend upon a number of

different factors. Since the possibility of premarital pregnancy is less threatening to the condom users, they seem willing to take the chance of reducing its probability with a relatively less effective contraceptive. If the method does not work they have not lost as much as those who perceive the threat as greater. Paradoxically, those who find the possibility of premarital pregnancy as most threatening may not take any steps to actually reduce its probability. Rather, they may use psychological mechanisms to subjectively reduce the threat completely. It has been widely observed that teenagers at the beginning of their sexual careers often deny to themselves that they are sexually active (Sorensen, 1973; Cvetkovich, Grote, Bjorseth & Sarkissian, 1975). Those who have a highly negative view of pregnancy and accept their activity select the effective, but more costly, medical methods of contraception, especially if they lack the communication skills to convince their partner to use a condom.

Conclusion

The adoption of a decision-making orientation is seen as making several important contributions to the understanding of psychosocial development and fertility control. Because such an orientation calls for the measurement of situation-specific characteristics of fertility-related behavior it can promote an important unifying effect in the literature. The possible candidates of developmental variables which might relate to adolescent fertility behavior are almost legion.

Included among the variables recently discussed are sex role orientation, acceptance of sexuality, cognitive and emotional development, communication skills, ego development, and moral development. Without a unifying focus, research could easily become fractionated into small conceptual areas.

Not only will measuring "proximal" decision-making variables have a unifying effect on studies of teenagers, it will also provide a bridge between studies on this age group and older individuals.

Finally, also because of the specific focus of the decision-making framework, research findings are easily translated into practical interventive approaches to teenage fertility control (e.g., Schinke, Gilchrist & Small, 1979).

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Table 1

Sample Characteristics of 1978 Non-Virgins

Total number of females	147
Number of non-virgins	87 (59%)
Job status* of fathers of non-virgins (N = 81)	
High: 1 & 2	28%
3 & 4	26%
5	32%
Low: 6	14%
Residence of non-virgins (N = 86)	
Live with both parents	70%
Live with mother only	12%
Other (mother and stepfather, father only, father and stepmother, other relative, foster care, on own)	18%
Mean age of non-virgins	16.8 years
Mean number of sexual partners	3

*Warner, 1949

Table 2

Contraceptive Use With First Sexual Partner

(N = 87)

Method	Time of Use		
	Sexual Debut (%)	First Method Used (sexual debut or later) (%)	Most Recent Method Used (%)
"Female" Methods			
Pill	3.5	20	35
IUD	-	-	-
Diaphragm	-	-	-
Condom or condom/foam	31	38	25
"Folk" Methods			
Rhythm	3.5	5	2
Withdrawal	9	11	13
Foam/cream	1	1	-
No Method Used	52	25	25
	100	100	100

Table 3

Means, Standard Deviations, F Tests and Differences Between Groups for Three User Groups on Nine Variables

		Length of Sexual Relationship (weeks)	Frequency of sex (month)	Age at Debut	Perceived Risk of Pregnancy (%)	Trust Partner for Contraception 1 = No; ... 7 = Yes	Gen. Communication with Male Friends 0 = Low; 3 = High	Role-Taking Skill 1 = Low; 2 = High	Attitude Toward Pregnancy - 1 = Extremely Negative; ... 5 = Positive	Discuss Debut with Partner 1 = No; 2 = Yes
No method	$\bar{X}$	22	3.1	14.8	22	2.5	1.17	1.29	1.89	1.27
(N = 22)	SD	31	5.3	1.3	18	2.2	.71	.46	.47	.46
Pill	$\bar{X}$	61	9.2	15.3	39	3.7	1.67	1.34	1.64	1.63
(N = 30)	SD	41	9.5	.9	29	2.0	.72	.48	.56	.49
Condom	$\bar{X}$	20	2.5	15.5	17	2.6	1.79	1.62	2.24	1.50
(N = 22)	SD	26	2.0	.9	14	1.3	.66	.50	.83	.51
F(2/71)		12.3	7.8	2.3	2.0	1.8	4.7	2.9	4.8	3.5
p <		.001	.001	.15	.20	.20	.02	.06	.02	.05
None vs Pill	* p<	.05	.05				.10			.05
None vs. Condom	* p<						.05	.10		
Pill vs. Condom	* p<	.05	.05						.05	

*All a posteriori contrasts were tested using modified least significant differences at alphas of .05 and .10.

Table 4

Standardized Canonical Discriminant Function Coefficients, Canonical Correlations (R), Eigenvalues (λi), Chi Squares (χ^2) and Group Centroids for Two Functions Discriminating No Method, Pill, and Condom Users

Variable	Function I	Function II
Length of relationship (weeks)	.69	.04
Frequency of sex/month	.36	.06
Age at debut	.36	.16
Perceived risk of pregnancy	.29	-.19
Trust partner for contraception (1 = No; ...; 7 = Yes)	.32	.11
General communication with male friends (0 = Low; ...; 3 = High)	.10	.62
Role-taking skill (1 = Low; 2 = High)	.11	.56
Attitude toward pregnancy (1 = extremely negative;... 6 = positive)	-.36	.52
Discuss debut with partner (1 = No; 2 = Yes)	.18	.35
R =	.68	.53
λi =	.85	.39
χ^2 =	63.44	22.25
df =	18	8
p<	.00001	.005

continued

Table 4--Continued

Group	Group Centroids	
	Function I	Function II
No method	-.81	-.77
Female method users	1.09	-.04
Male method users	-.68	.82

Table 5

Classification of Respondents into Predicted Groups

Using Nine Discriminating Variables

Actual Method Used	N	Predicted Method		
		No Method	Pill	Condom
No method	22	81.8%	9.1%	9.1%
Pill	30	13.8%	75.9%	10.3%
Condom	22	13.0%	13.0%	73.9%
Rhythm or withdrawal	13	15.4%	38.5%	46.2%
Total	87			

% of no method, pill, and condom users correctly classified using discriminant information = 77%

% of no method, pill, and condom users correctly classified by optimal chance strategy, i.e., predict all cases to be pill users = 41%.

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Total	87			